

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2002-SW-55-AD; Amendment 39-13060; AD 2002-25-51]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Agusta S.p.A. Model A109E Helicopters**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This document publishes in the Federal Register an amendment adopting Emergency Airworthiness Directive (EAD) 2002-25-51, sent previously to all known U.S. owners and operators of the specified Agusta S.p.A. (Agusta) helicopters by individual letters. This Airworthiness Directive (AD) requires reducing the tail rotor (T/R) blade life limit and modifying and re-identifying the T/R hub and grip assembly. It also clarifies the never-exceed speed (Vne) restrictions and modifies the T/R visual inspection intervals. The actions specified by this AD are intended to prevent fatigue failure of the T/R blade and subsequent loss of control of the helicopter.

**DATES:** Effective March 17, 2003, to all persons except those persons to whom it was made immediately effective by EAD 2002-25-51, issued on December 17, 2002, which contained the requirements of this amendment.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 17, 2003.

Comments for inclusion in the Rules Docket must be received on or before April 29, 2003.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 2002-SW-55-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. You may also send comments electronically to the Rules Docket at the following address: [9-asw-adcomments@faa.gov](mailto:9-asw-adcomments@faa.gov).

The applicable service information may be obtained from Agusta, 21017 Cascina Costa di Samarate (VA) Italy, Via Giovanni Agusta 520, telephone 39 (0331) 229111, fax 39 (0331) 229605-222595. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Jim Grigg, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Fort Worth, Texas 76193-0110, telephone (817) 222-5490, fax (817) 222-5961.

**SUPPLEMENTARY INFORMATION:** On October 17, 2002, the FAA issued AD 2002-17-51 (67 FR 67510, November 6, 2002), that superseded Emergency AD 2002-14-51, issued on July 9, 2002. AD 2002-17-51 imposed a Vne of 140 KIAS. That AD also required visually checking the T/R blades on both sides for a crack before each start of the helicopter engines; visually inspecting the T/R blades with a 5x or higher magnifying glass at 25 hour time-in-service (TIS) intervals and any time an increase in vibration occurs; and conducting a dye-penetrant inspection, if necessary; and replacing any cracked T/R blade with an airworthy T/R blade. Since issuing that AD, analysis and tests have shown that the fatigue failure of the T/R blades was caused by unanticipated loads on the T/R blades. The manufacturer has redesigned the T/R grip bushings to reduce these loads; therefore, on December 17, 2002, the FAA issued EAD 2002-25-51 to required modifying the T/R hub and grip assembly with the new bushings by May 31, 2003. Until the T/R grip assembly is modified, the life limit of the T/R blades is reduced to 200 hours TIS. That action was prompted by the failure of a T/R blade that resulted in a forced autorotative landing. The failure, which occurred on June 12, 2002, was determined to be caused by fatigue. This significant reduction in the service life of the T/R blades creates an unsafe condition. This condition, if not corrected, could result in fatigue failure of the T/R blade and subsequent loss of control of the helicopter.

The FAA has reviewed Agusta Alert Bollettino Tecnico 109EP-30, Revision B, dated November 27, 2002 (ABT), which maintains the visual check for cracks, the 5-hour TIS inspections with a magnifying glass, establishes a new life limit for the T/R blades, clarifies the Vne restrictions, modifies the T/R inspection intervals, and describes procedures for modifying and re-identifying the T/R hub and grip assembly by replacing T/R grip bushings (bushings), part number (P/N) 109-8131-29-101. Modifying and re-identifying the T/R hub and grip assembly restores the T/R blade life limits and cancels the Vne limitations.

Since the unsafe condition described is likely to exist or develop on other Agusta Model A109E helicopters of the same type design, the FAA issued EAD 2002-25-51 to prevent fatigue failure of the T/R blade and subsequent loss of control of the helicopter. The AD requires the following:

Applicability A: Agusta Model A109E helicopters with T/R hub and blade assembly, P/N 109-8131-02-151.

- Before further flight, placarding the helicopter and marking the airspeed indicator to reduce the helicopter Vne by 28 KIAS in addition to any reduction in Vne caused by optional equipment installation.
- Before each start of aircraft engines, visually checking each T/R blade for a crack.
- Within 5 hours TIS, and thereafter at intervals not to exceed 5 hours TIS, visually inspecting the T/R blade for a crack using a 5x or higher magnifying glass. If in doubt as to the existence of a crack, dye-penetrant inspect the T/R blades for a crack.
- Before further flight, replacing any unairworthy T/R blade with an airworthy T/R blade.
- Establishing a new life limit on the T/R blade, P/N 109-8132-01-111, of 200 hours TIS.
- Within 10 hours TIS, for helicopters having T/R blades with 190 hours TIS or more, replacing the blades.
- On or before May 31, 2003, modifying the T/R hub and grip assembly. Modifying and re-identifying the T/R hub assembly removes the Vne restrictions imposed, restores the T/R blades life limit to 1,000 hours TIS, and changes the AD requirements for the helicopter from Applicability A to Applicability B.

Applicability B: Agusta Model A109E helicopters, with T/R hub and blade assembly, P/N 109-8131-02-157.

- Before each start of the helicopter engines, visually checking the T/R blade for a crack.
- Within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, visually inspecting the T/R blade for a crack using a 5x or higher magnifying glass. If in doubt as to the existence of a crack, dye-penetrant inspect the T/R blades for a crack.
- Before further flight, replace any unairworthy T/R blade with an airworthy T/R blade.
- Before accumulating 150 hours TIS on the T/R hub assembly, P/N 109-8131-02-159, and thereafter at intervals not to exceed 150 hours TIS, inspect the bushings, P/N 109-8131-30-109. Replace any unairworthy bushing with an airworthy bushing.

The actions must be accomplished in accordance with the ABT described previously. The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability and structural integrity of the helicopter. Therefore, the previously stated actions are required before further flight and at the specified time intervals, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on December 17, 2002, to all known U.S. owners and operators of Agusta Model A109E helicopters. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to 14 CFR 39.13 to make it effective to all persons.

The FAA estimates that 48 helicopters of U.S. registry will be affected by this AD, that it will take approximately:

- 1 work hour to placard each helicopter;
- 0.5 work hour to visually inspect the T/R blades;
- work hour to dye-penetrant inspect the T/R blades;
- 7 work hours to inspect the T/R grip bushing;
- 2.0 work hours to replace each set of T/R blades; and
- 16 work hours to modify the T/R grips.

The average labor rate is \$60 per work hour. Required parts will cost approximately \$58,690 per helicopter. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$3,005,760, assuming for each helicopter, five T/R blade visual inspections, five dye-penetrant inspections, and five bushing inspections.

## **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their mailed comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 2002-SW-55-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**CORRECTION:** *[The Federal Register (FR) inadvertently omitted the amendment number from this AD. The FR will publish a correction. We have corrected this copy.]*

**2002-25-51 Agusta S.p.A (Agusta):** Amendment 39-13060, Docket No. 2002-SW-55-AD.  
Supersedes AD 2002-17-51, Amendment 39-12936, Docket No. 2002-SW-42-AD.

**Applicability A:** Model A109E helicopters with tail rotor (T/R) hub and blade assembly, part number (P/N) 109-8131-02-151 (the T/R hub and blade assembly consists of two T/R blades, P/N 109-8132-01-111, and T/R hub and grip assembly, P/N 109-8131-02-127), certificated in any category.

**Applicability B:** Model A109E helicopters with T/R hub and blade assembly, P/N 109-8131-02-157 (the T/R hub and blade assembly consists of two T/R blades, P/N 109-8132-01-111, and T/R hub and grip assembly, P/N 109-8131-02-159), certificated in any category.

**Note 1:** This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (n) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

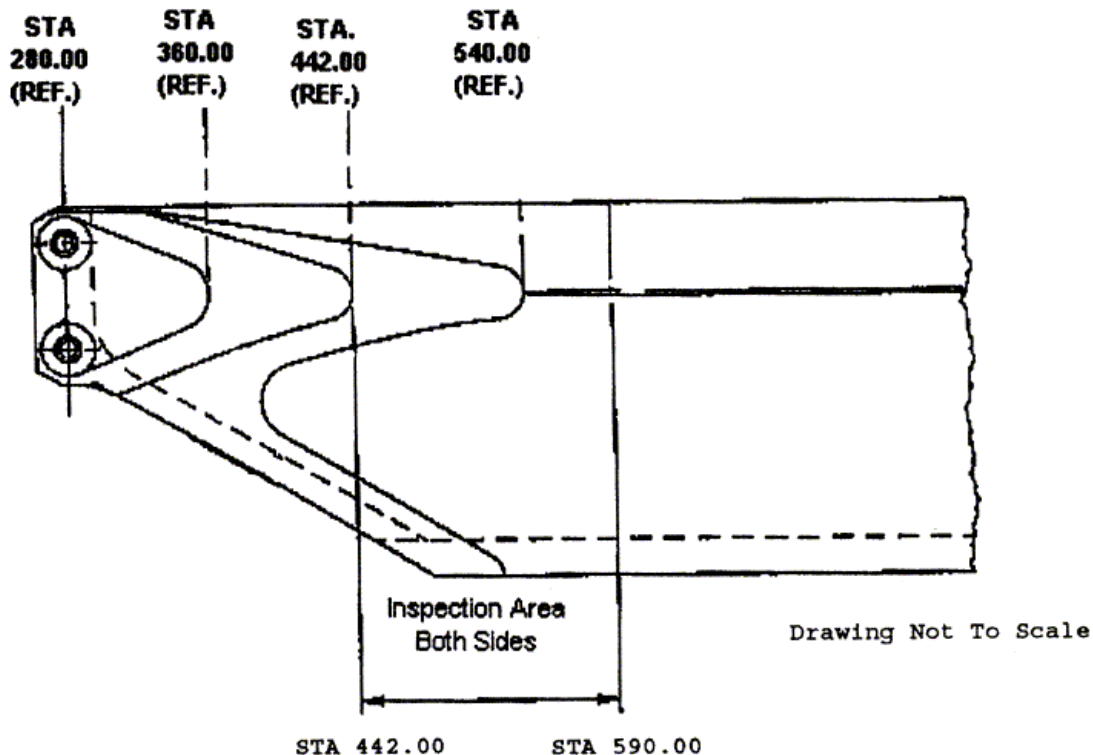
**Compliance:** Required as indicated, unless accomplished previously.

To prevent fatigue failure of the T/R blade and subsequent loss of control of the helicopter, accomplish the following:

## **Applicability A**

(a) Before further flight, placard the helicopter and mark the airspeed indicator to reduce the helicopter never-exceed speed (Vne) by 28 KIAS in addition to any reduction in Vne caused by optional equipment installation, in accordance with the Compliance Instructions, Part I, paragraph 1 of Agusta Alert Bollettino Tecnico 109EP-30, Revision B, dated November 27, 2002 (ABT).

(b) Before each start of the helicopter engines, visually check both sides of each tail rotor blade for a crack in the area depicted in Figure 1 of this AD. An owner/operator (pilot) holding at least a private pilot certificate may perform this visual check and must enter compliance with this paragraph into the aircraft maintenance records in accordance with 14 CFR 43.11 and 91.417(a)(2)(v). See Figure 1:



**Part Number 109-8132-01-111 Tail Rotor Blade**

**FIGURE 1**

(c) Within 5 hours time-in-service (TIS), and thereafter at intervals not to exceed 5 hours TIS, and before further flight any time there is an increase in vibration levels:

(1) Using a 5x or higher magnifying glass, visually inspect each T/R blade for a crack in accordance with the Compliance Instructions, Part III, paragraphs 1. through 5., of the ABT. Reporting to Agusta Service Engineering is not required.

(2) If you are unable to determine by the visual inspection whether there is a crack, dye-penetrant inspect the T/R blade for a crack in accordance with the Compliance Instructions, Part III, paragraph 6., of the ABT.

(d) Before further flight, replace any unairworthy T/R blade with an airworthy blade.

(e) This AD establishes a new life limit on the T/R blade, P/N 109-8132-01-111, of 200 hours TIS.

(f) Within 10 hours TIS, for helicopters having T/R blades with 190 hours TIS or more, replace the T/R blades with airworthy blades.

(g) On or before May 31, 2003, modify the T/R hub and grip assembly in accordance with the Compliance Instructions, Part V, of the ABT. Neither returning the removed blades nor the grips and bushings to the manufacturer is required. Modifying the T/R hub and grip assembly removes the Vne restrictions imposed, restores the T/R blades' life limit to 1,000 hours TIS, and changes the AD requirements for the helicopter from Applicability A to Applicability B.

## Applicability B

(h) Before each start of the helicopter engines, visually check both sides of each tail rotor blade for a crack in the area depicted in Figure 1 of this AD. An owner/operator (pilot) holding at least a private pilot certificate may perform this visual check and must enter compliance with this paragraph into the aircraft maintenance records in accordance with 14 CFR 43.11 and 91.417(a)(2)(v). See Figure 1.

(i) Within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, and before further flight any time there is an increase in vibration levels:

(1) Using a 5x or higher magnifying glass, visually inspect each T/R blade for a crack in accordance with the Compliance Instructions, Part III, paragraphs 1. through 5. of the ABT. Reporting to Agusta Service Engineering is not required.

(2) If you are unable to determine by the visual inspection whether there is a crack, dye-penetrant inspect the T/R blade for a crack in accordance with the Compliance Instructions, Part III, paragraph 6., of the ABT.

(j) Before further flight, replace any unairworthy T/R blade with an airworthy blade.

(k) On or before accumulating 150 hours TIS on the T/R hub and grip assembly, P/N 109-8131-02-159, and thereafter at intervals not to exceed 150 hours TIS, inspect the bushings', P/N 109-8131-30-109, linings for wear in accordance with Part VI of the ABT. Replace any unairworthy bushing with an airworthy bushing.

(l) This AD revises the helicopter Airworthiness Limitations section of the maintenance manual by establishing a new retirement life for the T/R blade of 200 hours TIS and, after modifying the T/R hub and grip assembly, restores the retirement life to 1,000 hours TIS.

(m) T/R blades, P/N 109-8132-01-111, which have been operated as part of the T/R hub and blade assembly, P/N 109-8131-02-151, are considered unairworthy components of the T/R hub and blade assembly, P/N 109-8131-02-157, regardless of TIS.

(n) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Regulations Group, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Regulations Group.

(o) Special flight permits will not be issued.

(p) The placarding and marking the airspeed indicator, inspecting the T/R blade and bushing, and modifying the T/R hub and grip assembly shall be done in accordance with the Compliance Instructions in Agusta Alert Bollettino Tecnico 109EP-30, Revision B, dated November 27, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Agusta, 21017 Cascina Costa di Samarate (VA) Italy, Via Giovanni Agusta 520, telephone 39 (0331) 229111, fax 39 (0331) 229605-222595. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(q) This amendment becomes effective on March 17, 2003, to all persons except those persons to whom it was made immediately effective by Emergency AD 2002-25-51, issued December 17, 2002, which contained the requirements of this amendment.

**Note 2:** The subject of this AD is addressed in Ente Nazionale per l'Aviazione Civile, Italy, AD No. 2002-592, dated November 28, 2002.

Issued in Fort Worth, Texas, on February 14, 2003.

David A. Downey,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 03-4478 Filed 2-27-03; 8:45 am]

BILLING CODE 4910-13-P